

I claim:

1. A method of producing an integrated circuit configuration, which comprises:

forming a diffusion barrier layer on a substrate having at least a first insulating layer with a first conductive structure embedded therein;

forming a second insulating layer on the diffusion barrier layer;

etching a contact hole into the second insulating layer above the first conductive structure, wherein the surface of the first conductive structure is covered with the diffusion barrier layer within the hole;

forming spacers on side walls of the contact hole, the spacers acting as a barrier to diffusion of a material from the first conductive structure into the second insulating layer;

opening the contact hole as far as a surface of the first conductive structure; and

forming in the contact hole a second conductive structure conductively connected to the first conductive structure.

2. The method according to claim 1, which comprises forming the spacers of electrically conductive material.

3. The method according to claim 1, which comprises forming the first electrically conductive structure by applying the first insulating layer to the substrate; producing an opening with a bottom and side walls in the first insulating layer; depositing and structuring a first conductive barrier layer for forming an electrically conductive first diffusion barrier structure covering the bottom and the side walls of the opening; and forming the first conductive structure by filling the opening with conductive material.

4. The method according to claim 3, which comprises depositing a second conductive barrier layer after the contact hole has been opened as far as the surface of the first conductive structure; depositing a conductive layer;

structuring the conductive layer and the second conductive barrier layer, and thereby forming the second conductive structure and a second diffusion barrier structure arranged underneath the second conductive structure.

5. The method according to claim 1, which comprises:

forming one of the first conductive structure and the second conductive structure with a material selected from the group consisting of copper, silver, gold, platinum, and palladium;

forming one of the spacers, the first diffusion barrier structure, and the second diffusion barrier structure with a material selected from the group consisting of Ta, TaN, Ti, and TiN; and

forming one of the diffusion barrier layer and the spacers with a material selected from the group consisting of SiN and SiON.